

CLAIM AMENDMENTS

IN THE CLAIMS

This listing of the claims will replace all prior versions, and listing, of claims in the application or previous response to office action:

1-11. (Cancelled)

12. **(Currently Amended)** A ~~Method~~ method for controlling a fuel mixture provided for an internal combustion engine generating a flue gas stream by combusting the mixture, the engine comprising[[:]] a catalytic converter arranged in the flue gas stream[;]] and a lambda probe arranged downstream of the converter relative to the fuel gas stream for providing post-cat sensor signals, the method comprising:

detecting a~~[-]]~~post-cat sensor signal by the lambda probe;

acquiring ~~at least one~~ a subsequent post-cat sensor signal chronologically succeeding the post-cat sensor signal by the lambda probe;

generating a comparative value by comparing the ~~detected~~ acquired subsequent post-cat sensor signal to the acquired ~~detected~~ post-cat sensor signal;

changing the mixture if the comparative value is greater than or equal to a predetermined value; and

generating a number of chronologically succeeding comparative values by repeating the detecting and the acquiring steps, and checking a trend of the succeeding comparative values.

13. **(Previously Presented)** The method according to claim 12, wherein the comparative value is a difference value between the post-cat sensor signal and the subsequent post-cat sensor signal.

14. **(Currently Amended)** The method according to claim 12, wherein checking the trend comprises calculating a calculated value based on the post-cat and the subsequent post cat ~~senor~~ sensor signals.

15. (Currently Amended) The method according to claim 14, wherein the ~~methode~~ method further comprises a further changing the mixture if the number of succeeding comparative values exceeds ~~exceeds~~ a minimum number and the calculated value is less than the predetermined value.

16. (Currently Amended) The method according to claim 14, wherein the calculating includes defining a minimum post-cat sensor signal and a maximum post-cat sensor signal ~~signals~~ and dividing a difference value between the detected post-cat sensor signal and the minimum post-cat sensor signal by a difference value between the maximum post-cat sensor signal and the minimum post-cat sensor signal.

17. (Previously Presented) The method according to claim 12, wherein changing the mixture includes changing a frequency or an amplitude of a forced activation of the catalytic converter.

18. (Previously Presented) The method according to claim 12, the flue gas stream comprising segments having rich and lean exhaust gas packets, wherein changing the mixture includes a suppression of the lean exhaust gas packets.

19. (Previously Presented) The method according to claim 16, wherein defining the minimum and the maximum post-cat sensor signals is based on a current mass air flow or an engine speed.

20. (Previously Presented) The method according to claim 12, wherein checking the trend includes comparing the subsequent post-cat sensor signals used for generating the number of the succeeding comparative values.

21. **(Currently Amended)** The method according to claim 20, wherein checking the trend is stopped if the compared subsequent post-cat sensor signals are substantially equal.

22. (Previously Presented) The method according to claim 12, wherein the predetermined value or the number of succeeding comparative values is based on at least one operating point of the engine.

23. (Previously Presented) The method according to claim 22, wherein the operating point is based on a current exhaust gas composition of the flue gas stream.

24. (Previously Presented) The method according to claim 15, wherein the minimum number is based on at least one operating point of the engine.

25. (Previously Presented) The method according to claim 24, wherein the operating point is based on a current exhaust gas composition of the flue gas stream.

26. (Previously Presented) The method according to claim 12, wherein generating the number of succeeding comparative values or checking the trend is executed during a predetermined period.

27. (Previously Presented) The method according to claim 12, wherein generating the number of succeeding comparative values or checking the trend is executed during a period based on the segments of the flue gas stream.

28. (Previously Presented) The method according to claim 12, wherein generating the number of succeeding comparative values or checking the trend is based on an oxygen mass balance of the combustion.

29. **(Currently Amended)** A control unit for controlling a fuel mixture provided for an internal combustion engine generating a flue gas stream by combusting the mixture, the engine comprising[[:]] a catalytic converter arranged in the flue gas stream[[:;]] and a lambda probe arranged downstream of the converter relative to the fuel gas stream for providing post-cat sensor signals, ~~the controlling comprising~~

wherein the control unit is configured for:

detecting a post-cat sensor signal by the lambda probe;

acquiring ~~at least one~~ a subsequent post-cat sensor signal chronologically succeeding the post-cat sensor signal by the lambda probe;

generating a comparative value by comparing the ~~detected~~ acquired subsequent post-cat sensor signal to the ~~acquired~~ detected post-cat sensor signal;

changing the mixture if the comparative value is greater than or equal to a predetermined value; and

generating a number of chronologically succeeding comparative values by repeating the detecting and the acquiring steps, and checking a trend of the succeeding comparative values, and

wherein the control unit is operatively connectable to the lambda probe for detecting the post-cat sensor signal and acquiring the subsequent post-cat sensor signal.

30. **(Previously Presented)** The control unit according to claim 29, the control unit is adapted such the detecting and the acquiring is executable by reading the post-cat and the subsequent post-cat sensor signals.

31. **(Previously Presented)** The control unit according to claim 29, the control unit is configured for generating the comparative value, changing the mixture, generating the number of succeeding comparative values or checking the trend.